

LOADSTAR LETTER

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Free Mag Making Waves On Internet

Where do demo makers acquire their astounding programming acumen? *C= Hacking* is one place. *C= Hacking* was originally formed to ensure that *C-64/128* technical knowledge wouldn't gradually fade and disappear. It basically follows the creed, "Long Live Commodore." Articles have included discussion of undocumented opcodes of the 6510/8502, reading and writing files on *MS-DOS* diskettes, the steps involved in creating machine language programs from scratch, and articles involving numerous graphics techniques of the VIC (Video Interface Chip). So far 6 issues of the "net-magazine" have been released, averaging around 150k in each issue. Programs within the magazine are encoded in a text format called *uuencode*, which is a universal way of sending binary files through email.

Its origins and main distribution point is on *Internet* via a mailserver that is set up. (Those of you with *Internet* access may access it by sending *duck@pembvax1.pembroke.edu* an email message with a subject line of "mailserv" and in the body of the message the line, "help".

C= Hacking is distributed freely and copying of the magazine on disk is encouraged. Individual distribution of articles and reprinting, other than that of the whole magazine, has to be discussed and arranged for with the actual authors of the articles. A copying fee of no greater than \$5.00 per issue may be charged.

Those who wish to obtain *C= Hacking* through regular mail can send \$5.00 for a 3 1/2 disk in either *CBM* or *IBM* format (please specify) for all 6 issues currently available. Allow at least 3 weeks for delivery. □

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CORRECTION: In the interview with John Brown last issue, his internet address was given. John has informed *LOADSTAR* that he ignores all Internet mail. Please don't clutter his mailbox with internet mail. Thank you for your cooperation.

LOADSTAR Adds 3.5-Inch Editions

Beginning with Issue #116, *LOADSTAR* and *LOADSTAR 128 Quarterly* subscribers will have a choice between 5.25-inch floppy disks and 3.5-inch microfloppies. This service will be available only to those who request it. There will be no difference in price or interruption of service.

The *Copy It* Feature will be removed for the first month while it's being re-written to handle the 1581 drive. The *Copy It* feature will re-surface on issue #117 or soon thereafter. There will be extras on the 3.5 inch edition since there will be 1000 or so blocks free. □

Commodore Makes Moves On India

For the second time *Commodore* is trying its hand in India. *Silicon Holdings & Finance Pvt. Ltd.*, will be introducing computer systems from *Commodore Business Machines Ltd.* of Britain at *CSI '93*, the Computer Society of India's Annual Convention & Exhibition, held in Bombay on November 3-6.

The *C-64*, *Amiga 600HD*, *A-1200*, *CD 32*, *A-3000*, *A-4000-030* and the *A-4000-040* will be introduced at the exhibition. Prices of these vary from 3500 *Rupes* (about \$115) for the *C-64* home computer to 2 *Lakh* (around \$6700) for the *Amiga 4000* series.

The *C-64* will be based on the the 8500 microprocessor. It will be packaged with a word processor and a spreadsheet. Worldwide, the *C-64* has an installed base of over 12 million units. Everyone just wonders who these people are.

About four years ago, *Commander Computers Ltd.*, a Bhubaneshwar-based company, attempted a manufacturing and marketing tie-up with *Commodore* and placed *Commodore's* plans in there on hold. The competitor is now defunct. *Silicon* has been appointed the exclusive *Commodore* dealer for India and the

Continued on Page 2



India Continued

non-exclusive dealer for Singapore, Dubai, Sri Lanka, Hong Kong, Nepal, Bangladesh and the whole of the African continent. The company plans to assemble the systems in India. □

Amiga Getting A Little Respect?

Tulsa Junior College in Tulsa, Oklahoma is offering its new Desktop Video Production Associates Degree Program beginning this month. The first classes started 10/19/93. This two year degree is centered around the *Commodore Amiga* and the *Newtek Toaster*, the recognized leader in the area of Desktop Video Production. Students wishing to enter this new field in the area of Television Production or Movie Production will learn the ins and outs of Desktop Video. In addition, companies and businesses utilizing Commodore Amigas will be able to send their employees to these classes to assist in training or educating them in this arena.

The first classes offered this fall will be *Introduction to the Amiga*, with two sections offered at night. The Spring semester will see another offering of *Introduction to the Amiga* as well as a 2D Graphics class. The *Introduction to the Amiga* class runs approximately \$38 in cost and is offered at the Metro campus in downtown Tulsa.

The classes for the Fall have filled quickly and there were only a few openings available just before the beginning of the term last week. □

Reprinted with permission of the "StarShip" 5 minute news, on GENIE.

CMD To Exclusively Distribute GEOS

Rumors have been running amock in the Commodore world lately. For instance an Australian subscriber called us and asked if it was true that CMD had acquired LOADSTAR. We can assure you that LOADSTAR isn't for sale. But here's a rumor I've kept close to my breast that has turned true. CMD has been in negotiation with *Geoworks* for the manufacture and distribution rights of *Commodore GEOS* and *GEOS* applications.

Now it's official. CMD has just received a shipment of remaining *GEOS* applications and operating systems from *Geoworks*. Hard to find *GEOS* titles will soon resurface. There are no plans to change or upgrade *GEOS* at the moment. The nature of the deal makes CMD distributors and manufacturers, not the owners of the code. LOADSTAR will keep you posted on any changes. □

Govt Eases Attitude Against Encryption

For years Washington has restricted sales of "strong" encryption programs overseas. The idea is that US companies shouldn't sell network or diary-type software with with encryption ability to spies, and that the software shouldn't be so effective that our spies can't crack the code. This has placed American software companies at a disadvantage when their foreign competitors can generate "safe" software that can completely protect company secrets. In November word came from the General Accounting Office and Congress that the government shouldn't hinder the software industry in this way. Attempted repeal of the ban may not be far off. □

C-65 Mail Watch

LOADSTAR ordered its C-65 over a month ago from the Grapevine Group. Apparently their ad was a bit premature. We will report on this new (and most likely soon to be rare) computer as soon as we can. □

LOADSTAR LEAVES FLAGSHIP

LOADSTAR can still be reached on *GENIE*, but we no longer have a support section there in the *FLAGSHIP*. monitor the *FLAGSHIP* for product support. Send all questions to *J.JONES36* directly through EMAIL or *j.jones36@genie.geis.com* through INET. I really want your Email. The more the better! □

NEC Develops 500 MHZ RISC Processor

It wasn't long ago that 66 MHZ headlines rocked the computer world, and was considered unbelievable. Now NEC is sporting a processor almost ten times faster along with 64-megabit (8 meg) flash memory.

The processor is created with a 0.4 micron process. Details of the unit, including information about its architecture, have yet to be released.

The 64-megabit flash memory consumes only 3.3 volts. Flash memory is non-volatile, meaning it can retain data with its power source removed. NEC will seek to mass produce the memory in coming years.

NEC will showcase the two products at the *International Solid State Circuits Conference (ISSCC)* in February 1994. □

Modular Programming For Power, Versatility



by Jeffrey L. Jones

Since I started my career at *Softdisk*, over sixty issues ago, I've edited scores of programs. In that time, I've come to recognize many programming styles, and I've grown to admire and detest certain programming practices. This may sound pompous and hypersensitive, but I have very good reasons for preferring one type of code over another. These are reasons that every programmer should take to heart.

First we only have so much time to bring a single program up to code, about one week each. So if a program needs a file requestor and a little spiffing up with modernized menus, I try a surgical strike: Go in, insert the menus and the file requestor without changing the code around it. Usually this works and I'm done quickly. This gives me time to work on other programs, letters and other projects.

I can't perform a surgical strike when a program, while appearing to work fine as submitted, is held together with a web of variables and spaghetti code that bounces from line to line, almost gratuitously. There was once a program that looked and worked great, but was so much trouble that we decided to compile it so that *no one* could LIST the code and "learn" the mistakes of the author.

When I first began programming, I resisted the confines of structured programming. I told myself, "No one's ever going to go behind me and edit my code. Why should I program in a way that's unnatural to me?"

Well, I've been programming for eight years and I find myself moving toward a more structured programming method. When I worked on *PAYBACK*, published on *LOADSTAR #114*, I used *EXPENDITURE MATE* as a template. While I'm very proud that *EXPENDITURE MATE* was a solid program appreciated by many, I'm not proud of how it looks when it's

listed. My code is usually a cluster of SYSES because I usually use *TOOLBOX 105* and often ML dedicated to the program I'm working on. The SYSES weren't the problem. When I see SYSMT+15, I see a box routine. The problem with this code of only two years ago was the astounding lack of structure, the wasted code. Ultimately these properties made it difficult to edit the program. Though I knew the code, road blocks that I had built into the program kept me behind schedule on *LOADSTAR #114*. Here are a few rules that I taught myself by dipping into years old code of my own:

Never declare a new variable unless you have to. For instance if you can type the line that makes the variables, you might as well just PRINT the string directly.

Variables are best used to:

- a. Accept and store user input
- b. Store data and output
- c. Store data in structured arrays
- d. Index DATA, arrays, etc.
- e. Drive algorithms
- f. Pass parameters to subroutines

The first thing to remember about variables is that they are *reusable*. If you have fifty GET loops in a program, use fifty A\$s. If you have one hundred FOR NEXT loops in memory, use one hundred I variables, unless you have to nest the loops. Then use J, K, L, M, etc.

Items that appear in menus are best held in PRINT statements or DATA lines. Don't READ DATA like that into unique variables. Read them into a throwaway variable and PRINT them.

If you're going to create a temporary string or a string that will be written to disk, why not use A\$? If you declare to yourself that A\$ will always be a throwaway variable, you can always feel free to use it. You need a few unimportant variables, not several, but a few.

Reduce the number of variables in your algorithms. Too many variables will slow your program. Variables take time to

find in memory, and they are searched sequentially.

If *i* is the first variable that you create, it will be found first, in a tiny fraction of a second, in the variable pool. This translates into a faster loop. If you use a different variable for all your loops, then by the time you get to *z*, it takes many of those "fractions of a second" I mentioned to access *z*. So why not reuse *i*?

```
200 FOR I = 1 TO 24
210 A$ = PM$(I)
220 PV=ASC(A$+CHR$(0))
230 POKE,828+I,PV
240 NEXT
```

Many programmers may think there is nothing wrong with this code. Unfortunately this code wastes RAM by creating useless variable pointers and variable data that will not go away until a CLR. Optimize the code by combining variables:

```
200 FOR I = 1 TO 24
230 POKE,828+I,ASC(PM$(I)+CHR$(0))
240 NEXT
```

We can see the same in the following common mistake:

```
400 GETA$:IF A$="" THEN 400
410 MS=VAL(A$)
420 IF MS<1 OR MS>9 THEN 400
430 ON MS GOSUB500,600,700,800,
900,1000,1100,1200,1300
```

This sick, but workable code can be fixed like this:

```
40 GETA$:IFA$<"1"ORA$>"9"THEN 40
50 ONVAL(A$)GOSUB500,600,700,800,
900,1000,1100,1200,1300
```

Now we have the same end in fewer bytes, without producing needless variables.

Figure out major and repetitive tasks beforehand and write succinct subroutines that handle them:

- a. The printing of your main menu
- b. The printing of messages
- c. The printing of prompts
- d. The program's output
- e. The handling of user input

Never write the same code twice. For instance message and prompt routines can be combined.

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You can write code that prints a message and then RETURNS to caller. A message routine would clear a portion of the screen and then print a message in the proper location. Fine, but if your message is a prompt that expects the user to press a key, you can use the selfsame message routine, not by pelting the code with flags that give one routine two personalities, but by calling a separate subroutine that uses the message routine and then gets a keypress, as shown in the following pseudocode:

```
MESSAGE
2000 DO MESSAGE FROM VARIABLE :RETURN
```

```
PROMPT
2100 GOSUB MESSAGE:GET KEY:RETURN
```

Now you have a subroutine that uses an existing subroutine. This is what I mean by not writing the same code twice. So code that calls the prompt routine might look like this:

```
3000 A$="Quit? Are you sure? (Y/N)":GOSUB 2100
3010 IF A$<>"y" THEN RETURN
3020 END
```

Note that I only needed one variable, A\$ to pass a message to the MESSAGE subroutine and get data back from the prompt routine. Why introduce more variables? I'm guilty of using MS\$ for all messages when A\$ would work fine.

Be straightforward! When you print your main menu, do it in *one* block of code. Don't jump all around the program. Try to keep all your subroutines in the same block. Think "modular." One section of code does this, and another section does that. But by all means feel free to GOSUB all over the place. Code can consist of 99% GOSUBs and still be considered structured. Never dispatch program flow from main menus with GOTOs! That's spaghetti code in the making.

When you rely on GOSUB, you've written and are using subroutines, not spaghetti. Not only that, you'll find each section of your program useful, and callable from other sections. For instance, if the user tries to print something without first LOADING a file, you can ask the user which file they want to LOAD and then PRINT. You can do this using the regular PRINT and LOAD routines in your program. This is possible only if you've written your program in a modular fashion:

PRINT ROUTINE:

```
printFile If items > 0 then JUMP TO print
      GOSUB LOAD
      if ERROR then SHOW MESSAGE: RETURN
print DO PRINT PROMPTS
PRINT OUT FILE
RETURN
```

Now your print has all the power of LOAD, including any directories and file requestors that you've built into LOAD. Maybe you have to calculate before you PRINT. Well, if you write your calculate subroutine

as a true subroutine, you can do this:

PRINT ROUTINE:

```
printFile If items > 0 then JUMP TO print
      GOSUB LOAD
      if ERROR then SHOW MESSAGE: RETURN
print GOSUB calculate
DO PRINT PROMPTS
PRINT OUT FILE
RETURN
```

When you program this way, suddenly your BASIC programs have the power and integratable nature of machine language modules. In my RAMLink partition #2, I keep many ML as well as BASIC modules. I even have basic code on call that uses certain ML modules. Because I have this bag of standardized tricks, I can get things done quickly, without having to write old code over and over.

It's a good idea to keep BASIC modules numbered high. That way you can append them (in proper order) to programs that you're writing.

As you can see, there is power in modularizing your programs. You can also save RAM by combining lines and eliminating multiple steps.

Without tooting my own horn, I urge every programmer out there to take advantage of the many ML tools that we supply, especially TOOLBOX 105 and the soon to surface INSTANT PROGRAM II. They perform many mundane tasks excellently, and offer power that you just don't and yes *can't* get from BASIC. If you're a BASIC programmer and you don't have LOADSTAR #105, get it. Toot, Toot! □

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Review: Mad Man's Compression Kit



by Jeffrey L. Jones

THE COMPRESSION KIT is a disk utility package from *MAD MAN SOFTWARE* that gives options for data storage that never existed before. And it's menu driven. Imagine a more traditional archive function, only it's menu-driven. You select file after file and then compress them to another disk in one file. *THE COMPRESSION KIT* delivers all this plus disk and file copiers for any drive.

I've been talking with Gene Barker of *MAD MAN SOFTWARE* off and on for about a year. I'd have to coin him as a pathological perfectionist, which is why the much delayed *COMPRESSION KIT* performs so well. The only warning I can give is that this program is meant for those who have more than one drive. Single drive owners needn't apply.

One big bone I had to pick with the software is the dongle, required in port 1. For those not familiar, a dongle is a male plug that goes into the joystick port, and is one of the most effective means of copy protection since most people can't copy hardware. Naturally the dongle is supplied with the software. The upside is that backups of your program disk are hassle free because it's not protected. In fact *THE COMPRESSION* kit will install (copy) itself to your hard drive, *1581*, *FD*, *HD*, *RAMLink*, *RAMDrive*. The dongle must be inserted at all times for *THE COMPRESSION KIT* to run. So far the dongle hasn't gotten in my way since I don't use *GEOS* often, the dongle simply stays in the computer and I use *THE COMPRESSION KIT* at will.

THE COMPRESSION KIT is:

FILEMASTER (File copier)
PROCOPIER (Disk copier)
ARCHIVER (File[s] compactor)
1541 BOA (Whole disk packer)
1571 BOA (Whole disk packer)
1581 BOA (Whole Disk packer)
CMD NATIVE BOA (Whole Partition packer)

The kit uses no fast access routines, but if you're lucky enough to have *JiffyDOS*, every feature is enhanced. Everything works as expected, with few exceptions. Everything is intuitively menu driven and I dare say, idiot-proof. You won't need the 55-page manual to get up and running, but you'll need it to use the archivers to their fullest. A destination format is missing in *PROCOPIER*, and I was hoping that *FILEMASTER* would be able to copy/move whole subdirectories. *FILEMASTER* does copy to and from subdirectories. So far no one that I know of has seen fit to write the recursive routines necessary to copy subdirectories, and the subdirectories that might be inside them.

PROCOPIER is a straight disk copier. I have *JiffyDOS* so I don't know how fast it really is (every disk tool is sped up with *JiffyDOS*). In my opinion, the *PROCOPIER* and the *FILEMASTER* are simply tools that Gene thought the busy archivist might need. No bells and whistles, but they work.

The bells and whistles are indeed present in the *ARCHIVER* and *BOAS*. These archivers are optimized for speed, so *ARC* and *CS-DOS* will out-squeeze them slightly. The advantage of *THE COMPRESSION KIT* is the menu-driven chassis, allowing you to archive the files you want in cases where command lines just aren't enough. It's easier to learn than *ARC*. You won't have to study to use it. It's also a tad faster than *ARC*, and when you have to archive your work at the end of the month like me, you want to see those files go by faster. Unarchiving is menu-driven, too.

The *BOAS* have me excited. Here, you can take every track and sector of a disk and compress it into a file. This takes longer than archiving, and the files are inevitably bigger, but the upside is you can upload a whole disk, with hidden files, *GEOS* files, *RELI* files, protected files, divider lines, subdirectories, warp load files... Even the skew is the same when the disk is un-BOAed. There is a public

domain decompression module available, called *DECOMPER.SDA*, which will work with *1541 BOA* files.

Ironically, I uploaded four *BOA* disks to *GENie*, and found that they weren't allowed "because they couldn't be unarchived onto any disk on any computer." They were removed. Hopefully this policy will change with time. *DECOMPER.SDA* is on *GENie*.

Still the archiver is where you [should] spend the most time, and it's faster than the *BOAs*. I like *THE COMPRESSION KIT*. It's a joy to use. If you're a packrat with more than one drive, you might find it handy. If you only have one *1541*, stay in your lane. □

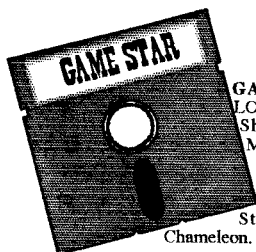
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From Fender and
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at Softdisk! ❄️

Next Month

More news, more programming, a review of *RIO's C-64 GENLOCK*, a review of *CMD UTILITIES*, laser printer review, editorials, a guest editorial, dogs and cats living together, mass hysteria. And more shameless attempts to fill leftover spaces, like this one.



LOADSTAR Products!

GAME STAR #1 - Brand new! Eight of the best games from LOADSTAR #70 - #100). The Tenement, Stack 'Em, The Sherwood Open, Gems, Stealth Bomber, Eagle Eyes, Moonraker and Circuitry. \$9.95 (C-64/128) Item #080825

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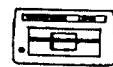
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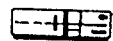
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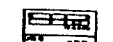
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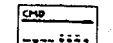
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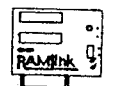
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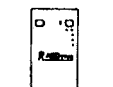
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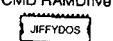
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